IJoHS

International Journal of Healthcare Simulation

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Maximizing opportunities during a simulation fellowship

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https://ijohs.com/article/doi/10.54531/FLXG5019

ABSTRACT

Simulation fellowships are 1- to 2-year posts during which intensive training and experience occur. Making the most of opportunities presented during this short time is essential. This paper describes methods for maximizing such opportunities based on the collective experience of previous simulation fellows and supervising faculty. These are organized within four categories: (1) expectations and feedback (clarify the fellowship objectives, have an organized approach, work effectively with your supervisor, ask for feedback), (2) simulation activities (learn how to design simulation activities, learn how to develop simulation activities, curate a collection of resources), (3) scholarship (get involved in research, present and publish projects, undertake a qualification, network and collaborate) and (4) professional development (develop your professional identity, maintain clinical skills, continue the simulation journey). These tips may aid the professional development of simulation fellows and assist mentors in providing support to fellows.

What this essay adds

- This essay outlines methods for making the most out of a simulation fellowship.
- These methods may be of value to simulation fellows present and future, and for those supervising fellowships.

Background

Simulation-based education (SBE) is now widely accepted as an effective technique for learning. National simulation strategies are emerging across the United Kingdom (UK) [1–3], and recent iterations of medical curricula in the UK have mandated simulation for both teaching and assessment of doctors in training [4–6]. This intended increase in delivery of SBE requires an increase in skilled simulation educators. Simulation fellowships offer the opportunity to become immersed in a faculty role, serving to increase faculty numbers, support simulation centres and also aid career progression of the individual. The number of simulation fellowships available worldwide has increased over recent years [7]. These most commonly span 1–2 years duration [7,8]. It may take time to settle into the simulation educator role, and this period can pass quickly. Therefore, making the most of opportunities presented during a simulation fellowship is essential.

In this article, we outline how to maximize opportunities during a simulation fellowship. These are based on the collective experiences of faculty who have completed simulation fellowships (ECP and JD) and experienced senior faculty who have mentored simulation fellows (EM and VRT). We have signposted relevant literature where appropriate for further information. The target audience is those who are currently undertaking a simulation fellowship or hope to do so in the future, as well as those who will be supervising or organizing such fellowships. This may also be of use to those undertaking teaching or medical education fellowships which involve elements of SBE. These tips may aid the professional development of simulation fellows, contributing to improved delivery of SBE and achievement of personal career goals.

Section 1: expectations and feedback

Clarify the fellowship objectives

It has been suggested that a standardized curriculum for simulation fellows would be useful to ensure consistency and maintain standards [9]. Curricular elements most commonly include skills related to curriculum development, setting up and running simulation scenarios, debriefing, administration and research [10]. Whilst development of curricula for simulation fellows has been described in the literature [11], an international survey of simulation programme directors found there was a lack of universally accepted standards [8], so simulation fellows may find themselves lacking a sense of direction or clear objectives. Individual centres may already work to an existing curriculum, but if not, there are some in the literature that could be explored for inspiration. For example, Ahmed *et al.* [12] have developed a technical skill curriculum for simulation fellows. The Association for Simulation Practice in Healthcare (ASPiH) outline the standards required of novice simulation faculty which may also be a useful reference point [13].

It has been found that the most commonly assessed skill during simulation fellow posts is debriefing using a tool; however, there is a lack of available tools with validity evidence for evaluating other curricular elements [11]. Fellows should agree with their mentors what will be assessed and how for both formative and summative purposes. Doing so will ensure that fellows are being trained to a high standard and will indicate the quality of the simulation fellowship programme. Attending a faculty development course is an essential first step. If following more of an apprenticeship-style fellowship, varying sources of teaching and feedback should be sought such as experienced faculty, simulation technicians and participants [14].

Objectives for the year may include achieving competencies as outlined in Table 1, which are adapted from the Clinical Skills Managed Educational Network (CSMEN) simulation faculty development guidance [15]. The level of supervision required should decrease as the simulation fellowship progresses.

Have an organized approach

Organization is a key skill required for a simulation fellowship in order to maximize productivity. Roberts *et al.* [16] highlight several important organizational factors for teaching fellows, including maintaining a portfolio of evidence, finding out when busy periods of the year are, scheduling clinical sessions in advance and keeping a work calendar. Emails can create administrative burden. Strategies for reducing email burden include only accessing emails during working hours, keeping emails short and using inbox filters [17]. Personal productivity and information technology systems may aid communication, collaboration and organization. Many of these are freely available as mobile applications.

Having a longitudinal view of the year will help visualize end goals from the beginning. Making a list of educational meetings and deadlines for abstract submission and mapping projects to these will help to maximize output.

Work effectively with your supervisor

The relationship with the supervisor of the simulation fellowship programme is critical for success. Their role may include: setting objectives for the fellow, supervising and supporting development of simulation activities, project supervision and guidance, and pastoral support. Being proactive by arranging an early mentor meeting to discuss expectations and aspirations for the year, including personal objectives, will aid deciding how and when these should be achieved, and regular review meetings should be scheduled in advance. Practical advice on cultivating a good working relationship between supervisor and supervisee exists

Table 1: Example learning objectives for simulation fellowship (adapted from CSMEN faculty development guidance [15])

• Operate audio-visual equipment
• Operate mannequins and associated software
• Operate other simulation equipment, e.g. part-task trainers, virtual reality simulators
• Facilitate simulation pre-briefs and debriefs
• Utilize video recording and playback
• Execute simulation scenarios
• Design and deliver a simulation course or curriculum
• Perform as a confederate or simulated patient
• Learn about theories underpinning simulation-based education, e.g. Kolb's cycle of experiential learning, constructive alignment, challenge point, psychological safety
• Present at an educational meeting
• Contribute to a research project

primarily in non-medical fields which could be drawn upon. For example: setting short and long-term goals, writing down an agenda of discussion points prior to meetings and taking notes during them, tailoring communication methods to one which suits both parties (e.g. face to face versus email), being receptive to constructive feedback, being reliable and accountable and being open and honest when issues arise [18]. Importantly, this relationship is likely to outlast the duration of the simulation fellowship and should therefore be prioritized in order to enjoy and thrive in the developing role of a simulation educator.

Ask for feedback

Feedback is an essential element of development as a simulation educator. This should aim to 'narrow the gap' between actual and desired performance, and should be conducted regularly. Ideally, feedback should be timely, relevant, specific and based on observation rather than speculation [19]. Feedback may be in regards to any activity undertaken by the simulation fellow, and should be aligned with the objectives and expectations set for the fellowship. Specifically considering simulation activities, debriefing skills are often a focal point for feedback. Senior simulation faculty should be encouraged to offer feedback in a structured way, for example, using a validated tool that fits the needs of the learner [20] such as the Observational Structured Assessment of Debriefing instrument (OSAD) [21], Debriefing Assessment for Simulation in Healthcare (DASH) [22] or the Simulation in Healthcare retrOaction Rating Tool (SHORT) [23]. Peer feedback can be a powerful tool for improving debriefing skills [20] and helps build a community of practice. A model such as the 'Meta-Debrief Club' may be useful [24], where group reflection and constructive feedback is used to generate actionable learning points. Self-reflection is essential [20]. Recording debriefs to watch back and keeping a reflective logbook of simulation activities may enable this. These could also be shared with mentors as the basis of feedback conversations. Once established in the post, simulation fellows may be expected to provide feedback to more novice educators and should consider using some of the structured tools mentioned above.

Feedback will be most beneficial to the simulation fellow if they are active in the process, for example, by practicing active listening, clarifying where needed, avoiding being defensive to or dismissive of negative feedback and requesting suggestions for change or improvement [25]. They should work alongside the supervisor to come up with actionable learning points which are subsequently followed up on [26].

Section 2: simulation activities

Learn how to design simulation activities

Design and delivery of SBE are the central activities of a simulation fellow, and it is not possible to do justice to these vast topics within this article. However, below outlines some key concepts and signposts resources that simulation fellows could use to further skills and knowledge in these areas.

Writing simulation scenarios is a skill that will be practiced throughout a simulation fellowship. Before embarking on writing new scenarios, it is worth finding out what already exists. There may be a local scenario bank or a central resource which could be used or adapted – there is no point in reinventing the wheel. Using a scenario template, such as the one shown in Supplement 1, will make scenario development more straightforward and ensure that constructive alignment is maintained [27]. Considering learners' needs from the beginning will help decide learning objectives which should drive the scenario. Barrott *et al.* [28] describe planning simulation activities as occurring over three phases: conceptualization (brain storming), exploration (input of expert opinion) and actualization (translating ideas into practice). This model may be useful to bear in mind.

As well as meeting learners' needs, stakeholder engagement is fundamental, for example training programme directors who will be granting study leave. Early involvement of key interested parties increases the chances of a successful simulation programme [28]. In addition, the simulation faculty and physical resources that will be required should not be underestimated. Piloting new scenarios and seeking feedback from both participants and faculty helps to allow iterative changes to be made.

Learn how to deliver simulation activities

A day of SBE activity is busy, so prepare as much as possible in advance. A 'pre-flight checklist' may be useful to ensure important tasks are not neglected, an example is shown in Table 2, adapted from a simulation event checklist by Eppich *et al.* [29]. Each element in this table is a skill that will take time to develop, and the simulation fellow should aim to build independence in running simulation activities throughout the year. The literature on facilitation of SBE is ample. Some useful jumping-off points include the chapter 'Facilitating Healthcare Simulations' from the book Healthcare Simulation Education [30], and the critical review by Taylor *et al.* which provides an overview of debriefing methods [31].

A key priority of the simulation fellow during simulation activities should be their own development as an educator. A formal discussion at the beginning of the day should agree on learning needs, how these will be addressed and how feedback will be given. An example of how this learning conversation may be structured is provided from the specialty of anaesthesia using the 'LoafnBread' educational checklist [32].

It should be remembered that SBE includes methods aside from immersive simulations, although this usually forms the bulk of simulation activities. Mastery learning, for example, is emerging as an effective method for teaching skills; therefore, specific training in delivering this should be sought if required. Simulation fellows focusing on mastery learning may wish to consult the recently published book by McGaghie *et al.* [33] which is a comprehensive resource on this subject.

Table 2: 'Pre-flight checklist' for a day of simulation activities (adapted from simulation event checklist [29])

Before the day:
• Check simulation space available (simulation lab or *in situ* area) • Confirm available faculty and attending participants • Ensure any specialist equipment is available • Attend to other logistics (e.g. ordering refreshments)
On the day:
• Have scenario paperwork organized in the order required • Set up mannequins, video recording and any other equipment required • Set up debriefing space with chairs and flipchart/smartboard • Conduct faculty meeting to decide roles for each scenario • Agree on learning needs of junior faculty and how these will be addressed • Welcome participants with refreshments and give out nametags and required paperwork • Commence course with introductions, learning objectives and pre-brief emphasizing safe learning environment and confidentiality agreement • Orientation to simulation space and equipment, emphasizing the fiction contract • Conduct scenarios followed by facilitated debrief using a structured debriefing tool • End session by reviewing learning objectives and gathering participant feedback
End of the day:
• Faculty debrief to discuss any issues with scenarios or equipment • Senior faculty to provide feedback to junior faculty according to agreed learning needs • Save any required video footage of scenarios or debriefs • Summarize participant feedback and send out confirmation of attendance

Curate a collection of resources

A collection of resources should be gathered near the beginning of the simulation fellowship which can be used for development of knowledge and skills as well as networking and collaboration. A list of suggested materials is given in Table 3 [34–39]. This is not intended to be a comprehensive list, but seeks to highlight some key resources that may serve as a foundation for further reading and development. Note these resources are specific to SBE, and that broader medical education resources which are not listed may also be useful.

Section 3: scholarship

Get involved in research

Simulation can be used for research to assess the efficacy of simulation itself (or its characteristics), or as an investigative methodology to research other subjects [40].

Table 3: Key resources for simulation fellows

Books:
• Essential Simulation in Clinical Education [34] • Healthcare Simulation Education: Evidence, Theory and Practice [35]
Online modules:
• Simulcast modules* [36] • Clinical Skills Managed Educational Network (CSMEN) modules* [37]
Journals:
• International Journal of Healthcare Simulation* • Simulation in Healthcare • Advances in Simulation* • Clinical Simulation in Nursing
Conferences:
• Association for Simulated Practice in Healthcare (ASPiH) annual meeting • Society for Simulation in Europe (SESAM) annual meeting
Podcasts:
• Simulcast Journal Club* [38] • Center for Medical Simulation Podcasts* [39]

*Free or open access resource.

A simulation fellowship is a great opportunity to get involved in educational research; however, completing a *de novo* research project may be unrealistic within the timescale. This is reflected in the fact that research design and reporting have been found to be one of the most challenging aspects of a simulation fellowship to master [8,41]. It is important to be realistic about what is feasible. Achievable goals may include getting involved in a project that is already running, or conducting a smaller-scale project. A course on simulation-based research could be attended; such a course runs at the Scottish Centre for Simulation and Clinical Human Factors [42], and there are no doubt others. Ethical review always takes time, so should be applied for early. The theories and methodologies applied are quite different to those used in clinical research. Scott *et al.* [43] have produced a useful introductory level article outlining tips for conducting educational research, including a table on common terminology used.

Present and publish projects

Projects carried out during a simulation fellowship create the opportunity to disseminate output. There are a number of benefits of presenting and publishing during a simulation fellowship, including: letting others learn from the work, learning from one's own work, a sense of completion and career progression. There are endless opportunities regarding which data can be used for manuscript writing, for example, needs assessment questionnaires, participant feedback or video data. Attending conferences and submitting abstracts for poster presentations, oral presentations and workshops is essential. Reading as many education journals as possible will give a feel for the style and slant of individual journals, so that the journal best suited to the work can be targeted.

Many journals now have a diverse spectrum of article types, for example the International Journal of Healthcare Simulation (IJOHS) publish practice guidelines, essays, debates, perspective pieces and short reports in addition to original research articles [44]. It may be that a project fits well into one of these categories. The planning stages should include gathering written consent for using participant data, including photographs or videos. Most journals will also require an ethics statement.

Undertake a qualification

A formal qualification in education could be undertaken during the simulation fellowship, and study days built into the job plan. This will enhance knowledge, add credibility and serve as currency for roles in the future. There are a number of universities that offer part-time online courses with modules specific in SBE, where a Certificate, Diploma or Masters are awarded in 1, 2 or 3 years, respectively. Gaining such qualifications may also give eligibility to apply for accreditation by international education bodies, such as the Higher Education Academy [45] or the Academy of Medical Educators [46]. It is, however, acknowledged that not all individuals will have the inclination to undertake formal qualification, or moreover, some may lack the opportunity to do so due to course access or financial limitations. The potential for funding from individual simulation centres or employer should be explored to mitigate this.

Network and collaborate

The benefits of collaboration during a simulation fellowship are immeasurable. Collaboration enables learning about how different people run simulation and allows understanding viewpoints and visions of faculty from various backgrounds. Huggett *et al.* [47] highlight tips for how to collaborate effectively when conducting research in medical education which could be extrapolated to projects within SBE. These include identifying enthusiastic and motivated individuals to work with, taking into account the passions and talents of these individuals, clarifying roles and expectations including timelines and deadlines early on, conducting regular meetings to ensure continued momentum and aiming to make collaborations attractive to the institution to gain their support. A simulation fellow is well-positioned to help foster connections between the simulation centre, the simulation faculty and the wider education network.

The role of social media in educational networking is rapidly evolving [48]. A professional account on a platform such as Twitter or Instagram may facilitate connections with simulation educators that are not constrained by geography. Moreover, online collaboration tools can maximize efficiency and allow teams of varying sizes and locations to work together productively. Attendance at meetings and conferences, such as those listed in Table 3, is also a useful way to network and learn about methods of SBE delivery and research from different institutions, which can confer great benefits to the simulation fellow and their programme. Such collaborations will be useful not only during the simulation fellowship, but also for the post-fellowship career of the individual.

Section 4: professional development

Develop your professional identity

Simulation fellows will often come from a clinical role that they have occupied for some time and in which they feel competent. The simulation educator role is very different and transition to this role can feel daunting. Professional identities for the clinician and simulation educator roles may feel in contrast to one another and this can be frustrating to navigate, which may have adverse impact on the individual as well as their learners and patients. Dace *et al.* [49] suggest that it is better to visualize these two professional identities, or 'hats' as blended with one another into a 'dual identity' in regard to their beliefs and behaviours, which can be achieved through experimentation, repetition and continuous growth.

However, there is likely to be a transition phase whilst acquiring the skills, knowledge and attitudes required to form this new professional identity. During this phase, impostor phenomenon may occur, where the individual feels like a fraud and experiences anxiety, self-doubt and fear which can affect well-being and performance. A recent survey found that almost half of simulation educators (46.6%) had experienced features of impostorism [50]; therefore, this is common obstacle

faced by this group. Suggested methods to ameliorate impostor phenomenon include support from others (such as mentoring or peer support) [51] during the development of a new professional identity. New simulation fellows should therefore not be disheartened by these feelings, and should address them with their team early on and identify how to tackle them.

Joining an established team who have pre-existing working relationships can be a challenge and feel isolating compared to clinical practice due to different interpersonal dynamics. New simulation fellows should be reassured that these feelings are common in the early days of a fellowship. Linking in with previous simulation fellows may help alleviate concerns.

Maintain clinical skills

While a year away from full-time clinical work may be a welcomed rest from shift work and a heavy workload [52], there is also a risk of degradation of skills and knowledge. The majority of simulation fellowship roles will also have a requirement to carry out some clinical work, usually in the region of 1–2 days per week [14,53]. Clinical commitments should be agreed from the beginning, with early liaison with the relevant department to arrange clinical sessions. Previous fellows have recommended 'being strict' with allocations to get enough clinical time and plan clinical sessions well in advance [16]. These may include outpatient clinics, theatre sessions, out of hours shifts or shadowing. Moreover, professional development within a specialty should be maintained, such as courses, conferences and eLearning. A record of evidence should be kept throughout the year.

Facilitating simulation for different specialties or interprofessional groups may help build clinical knowledge, although there is a paucity of evidence to support this notion. Upon return to work, a 'soft start' could be considered with supervised sessions and no on-call work until confidence is rebuilt.

Continue the simulation journey

The simulation fellowship should serve as a foundation for future success. In a survey of simulation fellows in North America, 88% felt that their fellowship had prepared them for their post-fellowship career [41]. A conversation between the simulation fellow and mentor towards the end of the fellowship may be beneficial to discuss onward plans and support that can be provided. This may require reciprocity with the position the simulation fellow is returning to (for example, a medical or nursing training programme). However, maintaining an active role in SBE can be challenging as it will have to be balanced with clinical shifts, exams and other work duties. The authors have utilized various methods to do this, including training less than full-time, agreement with the training programme director to have simulation days built into the rota and using study leave days for simulation activities.

Conclusion

This paper has described methods for maximizing the opportunities of a simulation fellowship, and may be a useful resource for those undertaking or supervising such fellowships. These topics were selected based on the opinions and preference of the author group, but related literature has been used to support the recommendations given. Allowing simulation fellows to gain the most of their experiences is the key to developing and improving the quality of SBE and related improvements in healthcare.

Supplementary material

Supplementary data are available at *The International Journal of Healthcare Simulation* online.

Declarations

Authors' contributions

None declared.

Funding

No funding was received from any funding agency in the public, commercial or not-for-profit sectors.

Availability of data and materials

None declared.

Ethics approval and consent to participate

Not applicable.

Competing interests

VRT and ECP facilitate the 'Getting started in simulation-based education' course at the Scottish Centre for Simulation and Clinical Human Factors.

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